

USSN 08/253,973
December 15, 1997
page 2

At page 15, line 5, replace "mwtL" with --metal--.

At page 20, line 18, replace "radiopharmacueticals" with --radiopharmaceuticals--.

At page 40, line 30, replace “euthanasing” with --euthanizing--.

At page 43, line 2, replace "filed" with --field--.

At page 45, line 13, replace “resuspended” with --resuspended--.

At page 47, line 21, replace “radiotheraprutic” with --radiotherapeutic--.

IN THE CLAIMS

Please cancel claims 9, 11-25, 27, 30, and 32-36 without prejudice.

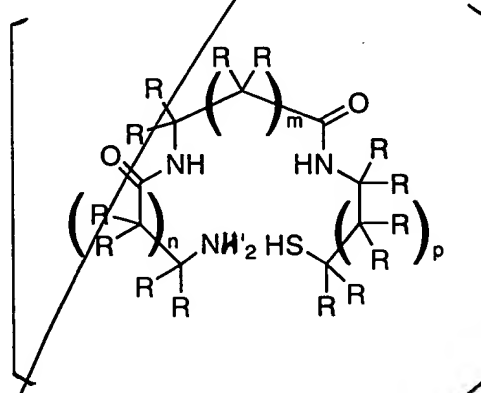
Amend claim 1 to read:

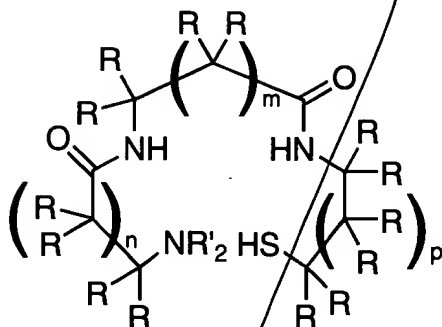
1(amended). A reagent for preparing a radiopharmaceutical agent, the reagent comprising
[that is] a monoamine, diamide, thiol-containing metal chelator covalently linked to a targeting
moiety.

Amend claim 2 to read:

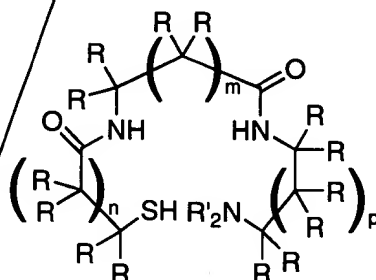
2 (amended). A reagent [of] according to claim 1, wherein the metal chelator [is selected from the group consisting of:

(i) a group having the] has/a formula:





[and (ii) a group having the formula:



wherein:

n , m and p are each independently 0 or 1,

each R' is independently H, lower alkyl, hydroxyalkyl (C_2 - C_4), or alkoxyalkyl (C_2 - C_4);

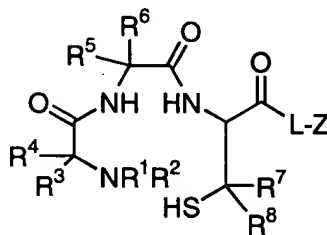
each R is independently H or R'' , where R'' is substituted or unsubstituted lower alkyl or phenyl not comprising a thiol group;

one R or R' is L, wherein when an R' is L, $-NR'_2$ is an amine; and

L is a bivalent linking group linking the chelator to the targeting moiety.

C2
Amended
(Amend claim 3 to read:)

3 (amended). A [composition of] reagent according to claim 2, wherein the metal chelator has [the] a formula:



wherein:

R¹ and R² are each independently H, lower alkyl, hydroxyalkyl (C₂-C₄) or alkoxyalkyl (C₂-C₄);

R³, R⁴, R⁵, and R⁶ are independently H, substituted or unsubstituted lower alkyl or phenyl not comprising a thiol group;

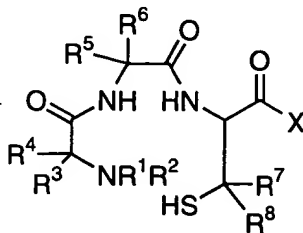
R⁷ and R⁸ are each independently H, lower alkyl, lower hydroxyalkyl or lower alkoxyalkyl;

L is a bivalent linking moiety; and

Z is a targeting moiety.

(Amend claim 4 to read:)

4 (amended). A [composition of] reagent according to claim 2, wherein the metal chelator has [the] a formula:



wherein:

R^1 and R^2 are each independently H, lower alkyl, hydroxyalkyl (C_2 - C_4), or alkoxyalkyl (C_2 - C_4);

R^3 , R^4 , R^5 , and R^6 are independently H, substituted or unsubstituted lower alkyl or phenyl not comprising a thiol group, and one of R^3 , R^4 , R^5 , and R^6 is $Z-L-(CR_2)_n$, where n is an integer from 1 to 6 and each R is independently H, lower alkyl, or substituted lower alkyl;

R^7 and R^8 are each independently H, lower alkyl, lower hydroxyalkyl or lower alkoxyalkyl;

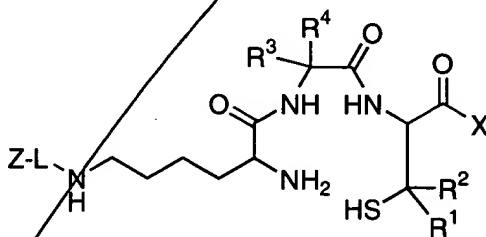
L is a bivalent linking moiety;

Z is a targeting moiety; and

X is $-NH_2$, $-NR^1R^2$, or $-NR^1-Y$, where Y is an amino acid, an amino acid amide, or a peptide of from 2 to about 20 amino acids.

(Amend claim 5 to read:

5 (amended). A [composition of] reagent according to claim 4, wherein the metal chelator has [the] a formula:



wherein:

R^1 and R^2 are each independently H, lower alkyl, hydroxyalkyl (C_2 - C_4) or alkoxyalkyl (C_2 - C_4);

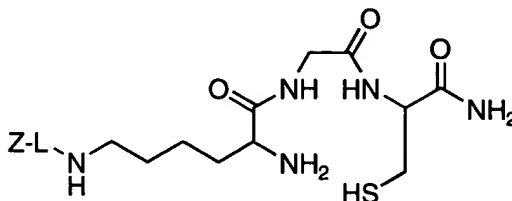
R^3 , R^4 , R^5 , and R^6 are independently H, substituted or unsubstituted lower alkyl or phenyl not comprising a thiol group;

US 08/253,973
December 15, 1997
page 6

n is an integer from 1 to 6;
L is a bivalent linking moiety; and
Z is a targeting moiety.

Amend claim 6 to read:

6. A [composition of] reagent according to claim 5, wherein the metal chelator has [the] a formula:



wherein:

L is a linker group; and
Z is a targeting moiety.

Amend claim 7 to read:

7 (amended). A [composition of] reagent according to claim 2, wherein the metal chelator is selected from the group consisting of:

(amino acid)¹-(amino acid)²-cysteine-,
(amino acid)¹-(amino acid)²-isocysteine-,
(amino acid)¹-(amino acid)²-homocysteine-,
(amino acid)¹-(amino acid)²-penicillamine-,
(amino acid)¹-(amino acid)²-2-mercaptoethylamine-,
(amino acid)¹-(amino acid)²-2-mercaptopropylamine-,
(amino acid)¹-(amino acid)²-2-mercapto-2-methylpropylamine-,

(amino acid)¹-(amino acid)²-3-mercaptopropylamine-,

C2
Coster
wherein:

(amino acid) is a primary α - or β -amino acid not comprising a thiol, and wherein the [chelating group] chelator is attached to a targeting moiety *via* a covalent bond with [the] a carboxyl terminus of the [chelating group] chelator or *via* a side chain on one [of the amino acid groups] (amino acid).

(Amend claim 8 to read:)

8 (amended). A [composition of] reagent according to claim 7, wherein (amino acid)¹ is either a α,ω - or β,ω -diamino acid [wherein the] having a free α -amine or β -amine [is a free amine].

Amend claim 10 to read:

10 (amended). A [composition of] reagent according to claim 2, wherein the chelating group has a formula selected from the group consisting of:

Gly-Gly-Cys-

Arg-Gly-Cys-

-(ϵ -Lys)-Gly-Cys-

-(δ -Orn)-Gly-Cys-

-(γ -Dab)-Gly-Cys-

and

-(β -Dap)-Gly-Cys-.

Amend claim 26 to read:

OP 26 (amended). A ~~composition~~ of matter comprising a monoamine, diamide, thiol-containing metal chelator.

Amend claim 31 to read: